Abstract of the disclosure

The present invention provides a method for Voice Handling via Dynamic Home Agents in a Network employing All-IP Architecture, and a system for handling voice call by using this method. The method comprises the following steps: when a first RCU is about to initiate voice call with a second RCU, a first agent address FA will be assigned to a corresponding mobile RCU by the RNC in which the mobile RCU resides; when the RCUs perform the voice call, corresponding Media Gateway (MG) assigns second agent address HA1 and HA2 to the first and second RCUs, respectively. Wherein both HA1 and HA2 are only valid during this call, and when the call is terminated or dropped, HA1 and HA2 will be released back to the pool of the IP addresses of the corresponding MG. The first and second RCUs implement the voice call based on the assigned first and second agent addresses. This method handles voice calls services via Dynamic Home Agents technique in MobileIP, so as to reduce the number of propagation of the IP header in communication channel in a wireless environment, and enhance system resources utilization efficiency.